FORCEnet

FORCEnet

NETWARCOM's Role in the TRIAD

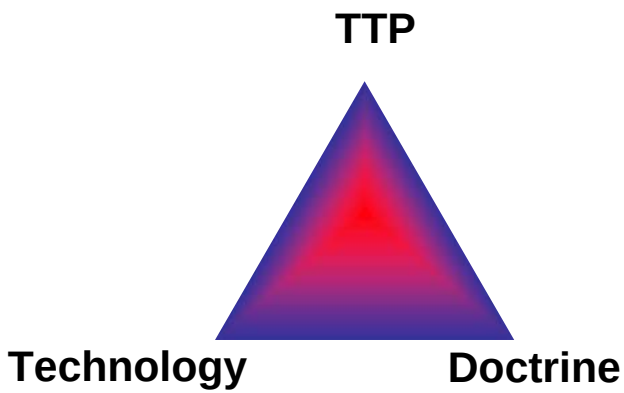
Captain Rick Simon
"Simo"
NETWARCOM FORCEnet Director
14 November 2005

Agenda

Mission People Capability

- FORCEnet Type Commander (TYCOM)
- NETWARCOM FORCEnet Responsibilities
  - FORCEnet concept & CONOPs development
  - FORCEnet Requirements
  - FORCEnet Operational Views (OVs)
  - FORCEnet Capabilities List (FCL)
  - FORCEnet Operational Agent and Sea Trial
  - FORCEnet Enterprise Team (FET) Lead
- Summary

Co-evolution



FORCEnet TYCOM

Mission ★ People ★ Capability

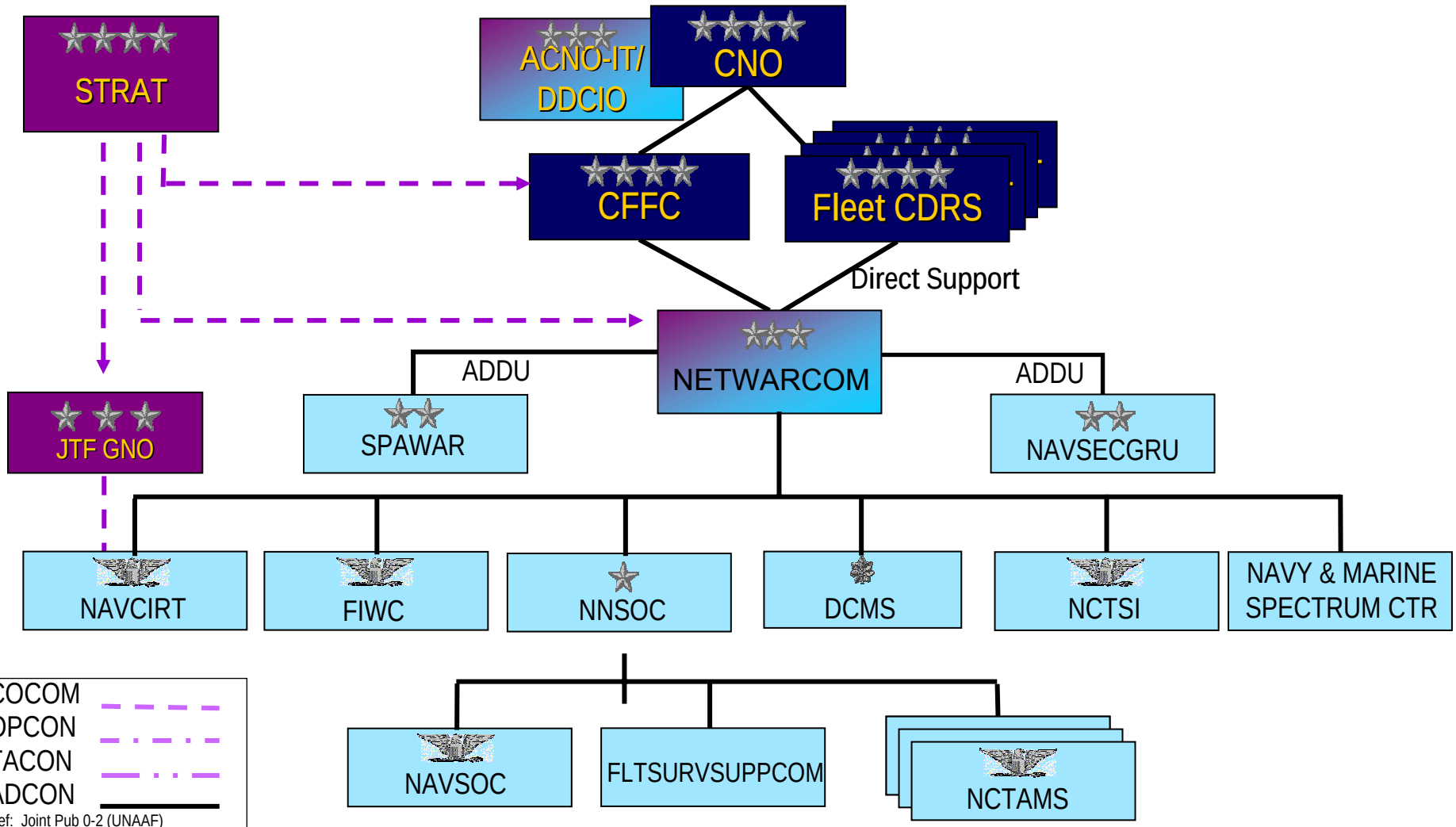
- NETWARCOM Mission:
  - Navy's operational Type Commander for the Network, and Information Operations, Space and FORCEnet …

- Responsible for organizing, training, equipping, operating, defending and fighting the Navy Network:
  - Operate secure and interoperable Naval Network
  - Coordinate and assess Navy operational requirements
  - Serve as operational forces' advocate in the development and fielding of Network Information Operations capabilities
  - FORCEnet Operational Agent – Navy Operational Lead for FORCEnet
  - Navy's Functional Component to U.S. Strategic Command
  - Expanded Information Operations role with Naval Security Group Merger
  - Initiative underway to become the ISR Type Commander

A Hybrid Type Commander

NETWARCOM Organization

Mission *People* *Capability*



NETWARCOM FORCEnet Roles and Responsibilities

Mission ★ People ★ Capability

- Lead for FORCEnet Fleet requirements development.
  - Co-chairs FORCEnet Operational Advisory Group (OAG) with Marine Corps Combat Development Command (MCCDC)
- Develops Operational Views (OVs) of the FORCEnet Integrated Architecture
  - Co-chairs the FORCEnet Integrated Architecture governance process with MCCDC
- Operational Agent for FORCEnet in Sea Trial
  - Navy lead for FORCEnet Concept Development and Experimentation
- Leads the FORCEnet Enterprise Team (FET)
- FORCEnet Type Commander (TYCOM)
  - Organize, train and equip
  - The network is the "platform"
  - Navy component to JTF GNO
    - operate, maintain and defend

The Network is a Weapon System

FORCEnet

A Functional Concept for the 21st Century

FORCEnet provides the naval command and control component for Sea Power 21 and Expeditionary Warfare, enhancing every aspect of naval, joint and combined operations. FORCEnet will empower Sailors and Marines at all levels to execute more effective decision-making at an increased tempo, which will result in improved combat effectiveness and mission accomplishment. As FORCEnet develops, it will fundamentally change the way the Navy-Marine Corps team functions by exploiting the power of networks—from deployed forces to the supporting establishment. A robustly networked Naval Force will improve situational awareness and mutual understanding, collaborative decision making, and operational planning by exploiting expertise resident throughout the force and beyond. This concept will yield better synchronization of actions through enhanced speed and quality of command. Although the focus of this concept is operational, FORCEnet is equally applicable to all activities throughout the Department of the Navy enterprise. This concept is derived from and further describes the vision of FORCEnet articulated in the Naval Operating Concept (2015-2020) for Joint Operations. It fully supports the Department of the Navy's Naval Power 21 and fundamental concepts and initiatives outlined in Sea Power 21 and Marine Corps Strategy 21. It aligns with evolving joint, interagency, and coalition command and control and net-centric concepts and capability-based guidance. This concept describes the principles, defines the capabilities, and reaffirms the necessity of co-evolving information technology with organization, process and doctrine. As such, this concept provides the overarching guidance necessary to support development of architectures, requirements, and future experimentation to fully realize FORCEnet. By doing so, the FORCEnet concept provides shared direction, guiding principles, and evolutionary objectives for the Navy and Marine Corps to develop future command and control capabilities.

FORCEnet Enterprise Requirements

Mission ★ People ★ Capability

Top-Level Guidance/Requirements

FORCEnet Requirements Spiral 1 (FY 03/04)
- Naval Operating Concept for Joint Operations
- FORCEnet Universal Needs Catalog
- FORCEnet Architecture Vision
- FORCEnet Architectures & Standards Vol 1
- FORCEnet Architectures & Standards Vol 2
- FORCEnet Science & Technology Roadmap
- FORCEnet HSI Assessment Plan

FORCEnet Requirements Spiral 2 (FY 05/06)
- FORCEnet Functional Concept
- FORCEnet Capabilities List
- FORCEnet Integrated Architecture: OV
- FORCEnet Integrated Architecture: SV/TV

Operational Requirements
System/Tech Requirements
Policy Requirements
Implementation Requirements

FCCC structure

Operational Requirements & Experimentation:
- **NETWARCOM's FORCEnet Focus**

Operationally Based Assessment & Refinement:
- ***FORCEnet Innovation Continuum/Trident Warrior***
- ***Coalition Warrior Interoperability Demonstration***

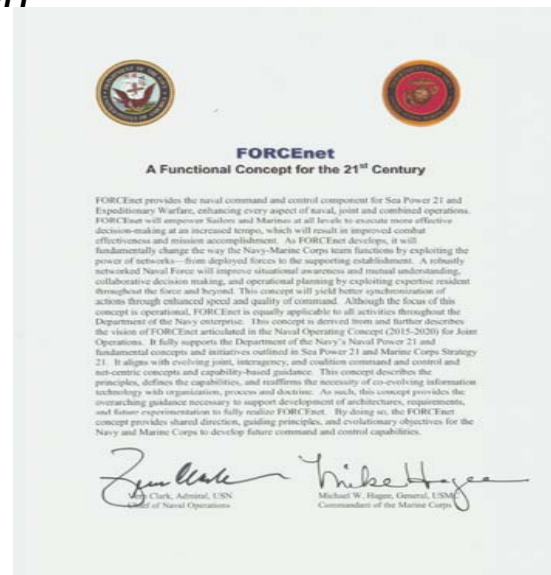
Enterprise Instantiation:
- **FORCEnet Consolidated Compliance Checklist (FCCC)**

•**FY 2004 Senate Appropriations Committee Report (108-87):** " The Committee is supportive of the goals of this integration program. … The Committee directs that the FORCEnet program establish these requirements… and release the approved requirements to those affected programs as quickly as possible in FY 2004."

FORCEnet Concept

Mission People Capability

- **Scope:**Describes a concept for naval command and control within joint operations in *2015-2020* based on net centric warfare tenets.
- **Purpose:**
  - Establish guidance and a common goal for the diverse command and control developmental efforts
  - Provide a common framework for future command and control
  - Supports:
    - FORCEnet *capabilities and requirements definition*
    - Architecture *operational views development*
    - *Focus FORCEnet Sea Trial Experimentation*
  - Provide foundation for FORCEnet DOTMLP_F



FORCEnet
A Functional Concept for the 21st Century

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Vern Clark, Admiral, USN
Chief of Naval Operations

Michael W. Hagee, General, USMC
Commandant of the Marine Corps

FORCEnet Capabilities

Mission ★ People ★ Capability

1. Robust, reliable communication to all nodes
2. Reliable, accurate and timely Blue Force location and status
3. Reliable, accurate and timely red, white and gray force location, identification, tracking and engagement
4. Storage, cataloging and retrieval of all information
5. Information processing, sorting, analysis, evaluation, and synthesis
6. Means to depict situational information in a tailorable, user-defined, shareable representation
7. Collaborative environment to allow cooperation by distributed groups of decision makers
8. Automation of certain lower-order C2 sub-processes thru AI and decision aids to support human, higher-order sub-processes
9. Information assurance
10. Function in multiple security domains, and within multiple levels of security
11. Interoperability with different command and control systems
12. Ability of individual nodes to function while temporarily disconnected
13. Means of monitoring and managing the functioning of the system
14. Seamless incorporation of new capabilities into the system
15. *Commanders able to make and carry out good decisions quickly*

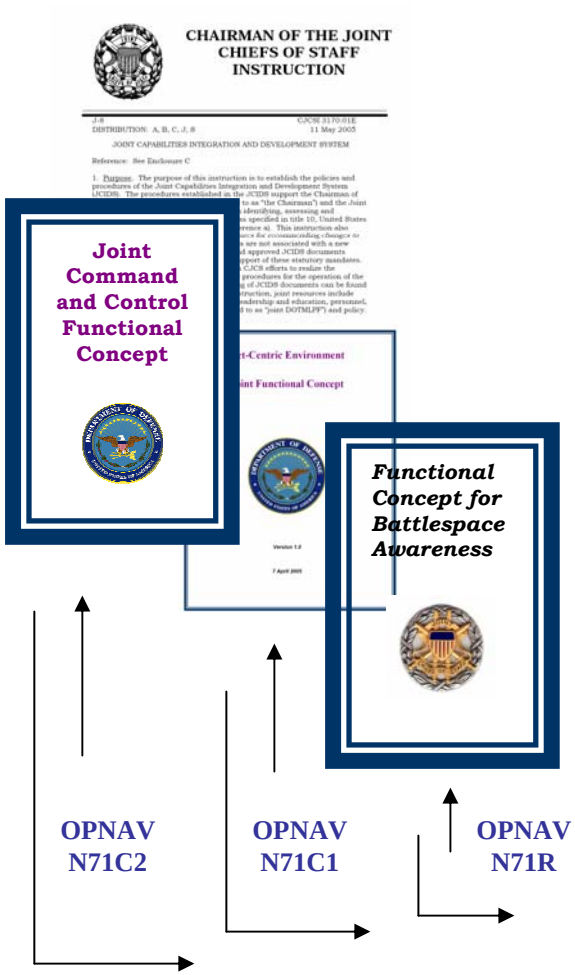
Concept to Capabilities to Architecture

FORCEnet Concept Annex NCDP Alignment

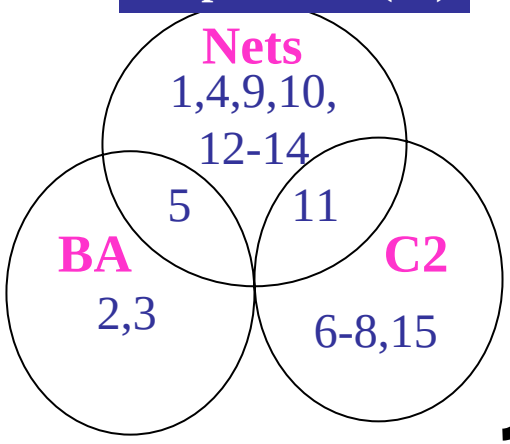
Joint Capabilities Integration and Development System

FORCEnet Functional Concept

Naval Capabilities Development Process



FORCEnet Capabilities (15)



COTP MCP

~ 34 Tasks

Nets MCP

~ 32 Tasks

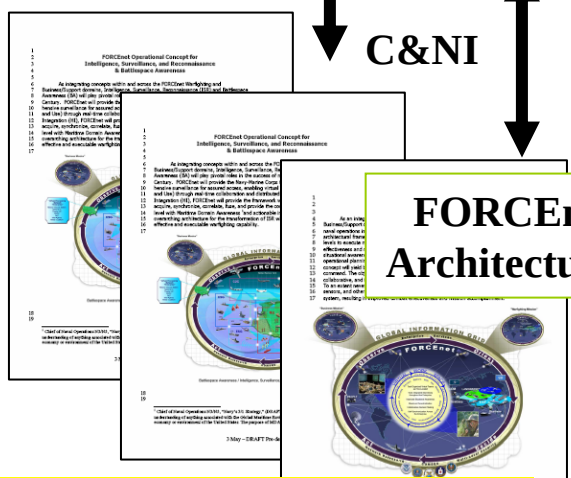
ISR MCP

~ 14 Tasks

C2/DS

C&NI

BA/ISR



FORCEnet Architectures

Uses Joint tasks and attributes to inform decompostion

FORCEnet Functional Concept Annex: Capability, Tasks,Attributes & Measures

Mission People Capability

Fn1. Provide robust, reliable communication to all nodes, based on the varying information requirements and capabilities of those nodes.

The foundation of FORCEnet is a fully integrated, self-healing, self-organizing communications system or infrastructure. This will consist of an interoperable worldwide network of information hardware and software and management services that produce an

To optimize network effects, the infrastructure will be based on a modular, open-systems architecture which allows all nodes to interact regardless of location or network address. The network will include accessible addressing for all nodes, meaning tha

This capability will include a combination of permanent information infrastructure and expeditionary capabilities that exploit the full range of transmission technologies (radio, infrared, microwave, fiber, cable, etc.) and communications modes (voice, t

FORCEnet Capability	Associated MCP	Major Tasks	Attributes	Example Measures
Fn1. Provide robust, reliable communication to all nodes, based on the varying information requirements and capabilities of those nodes.	Nets	1.1. Establish the network.	Extensive	*Number* of nodes served by the network.
			Sufficient	*Fraction* of nodes requesting service that receive it.
			Timely	*Time* difference between network services required and provided (min).
		1.2. All nodes access the network.	Accessible	*Number* of steps required to log on network.
				Amount of time required to log in and have access to the network.
				Percent of time communications channels are available.
			Compatible	*Percent* of nodes able to authenticate identity.
			Extensive	*Percent* of required nodes able to access network.
				Number of different types of nodes that can access the network.
				Percent of nodes that can communicate using desired access mode, information format, applications.
				Number of nodes that can be provided acceptable service at same time.
		1.3. All nodes publish their presence, identity and available services.	Accessible	*Percent* of nodes able to publish presence/identity and offer available services.
				Percent of provided services available.
			Manageable	*Time* required to make services available after request, by service.
			Sufficient	*Percent* of required services available on the network.
		1.4. Maintain a dynamic directory of all nodes that is available to all nodes.	Accessible	*Percent* of nodes whose identity can be queried and established.
			Manageable	*Seconds* required to identify any node on the network.
				Seconds required to publish presence/identity, offer available services.
			Sufficient	*Percent* of nodes identifiable to any node.

FORCEnet Capabilities List (FCL)

Mission People Capability

Master reference for each capability

Links to metrics source for drill down

Fn Capability 6: Conduct Command & Control

DOTMLP-F	Status	Attributes & Parameters	Systems	Near (2006-2010)	Mid (2011-2019)	Far (2020+)	Lead Organization
Doctrine	R/Y/G						
Organization	R/Y/G						
Training	R/Y/G						
Materiel	R/Y/G						
Leadership & E	R/Y/G						
Personnel	R/Y/G						
Facilities	R/Y/G						

Comparable to USMC ECL concept broken down by DOTMLP-F

Synchronization
System relationships

DJC2
DCGS
GCCS-M 3.8
GCCS-M 4.X
NCES

Links to NMCI / GIG / ONE Net / ISNS / etc

Links to FIBL, FIT for detail info

Links to PEO roadmaps

Fleet Response Plan
Platform Impacts

CVN, DDG, CG

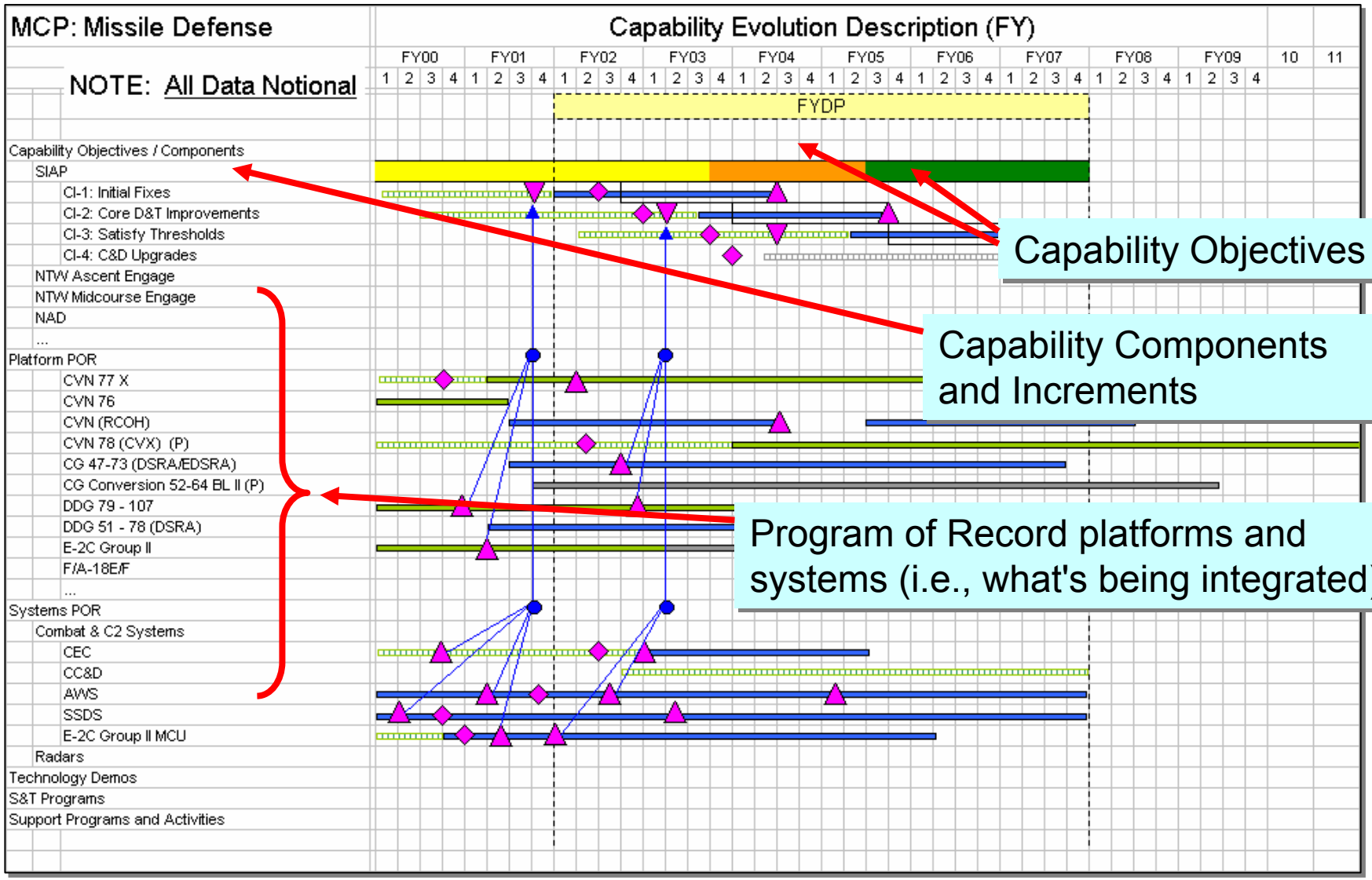
Links to NMETLs / IRRI for current readiness

Links to NTIRA / SHIPMAIN / NDE for platform specifics

Each of these also link to appropriate Center of Excellence

The Capability Evolution Description

Mission People Capability



FORCEnet OV Process

Mission People Capability

OV-1: High-Level Concept Graphic
OV-2: Operational Node Connectivity
OV-3: Information Exchange Matrix
OV-4: Organizational Relationships
OV-5: Activity Node Tree/Model
OV-6: Event Trace Diagram
FIBL – FORCEnet Implement. Baseline
SME – Subject Matter Expert
MCASE – MC Arch Support Environment

FORCEnet Concept and Capabilities

Operational Scenarios/Mission Threads

Current Doctrine

Mission Essential Tasks

MCASE

OV-1's

OV-2
OV-3
OV-4
OV-5

OV-6's

FIBL

MCASE

M&S Based Assessments

SV / TV Development

ISPs, ICDs

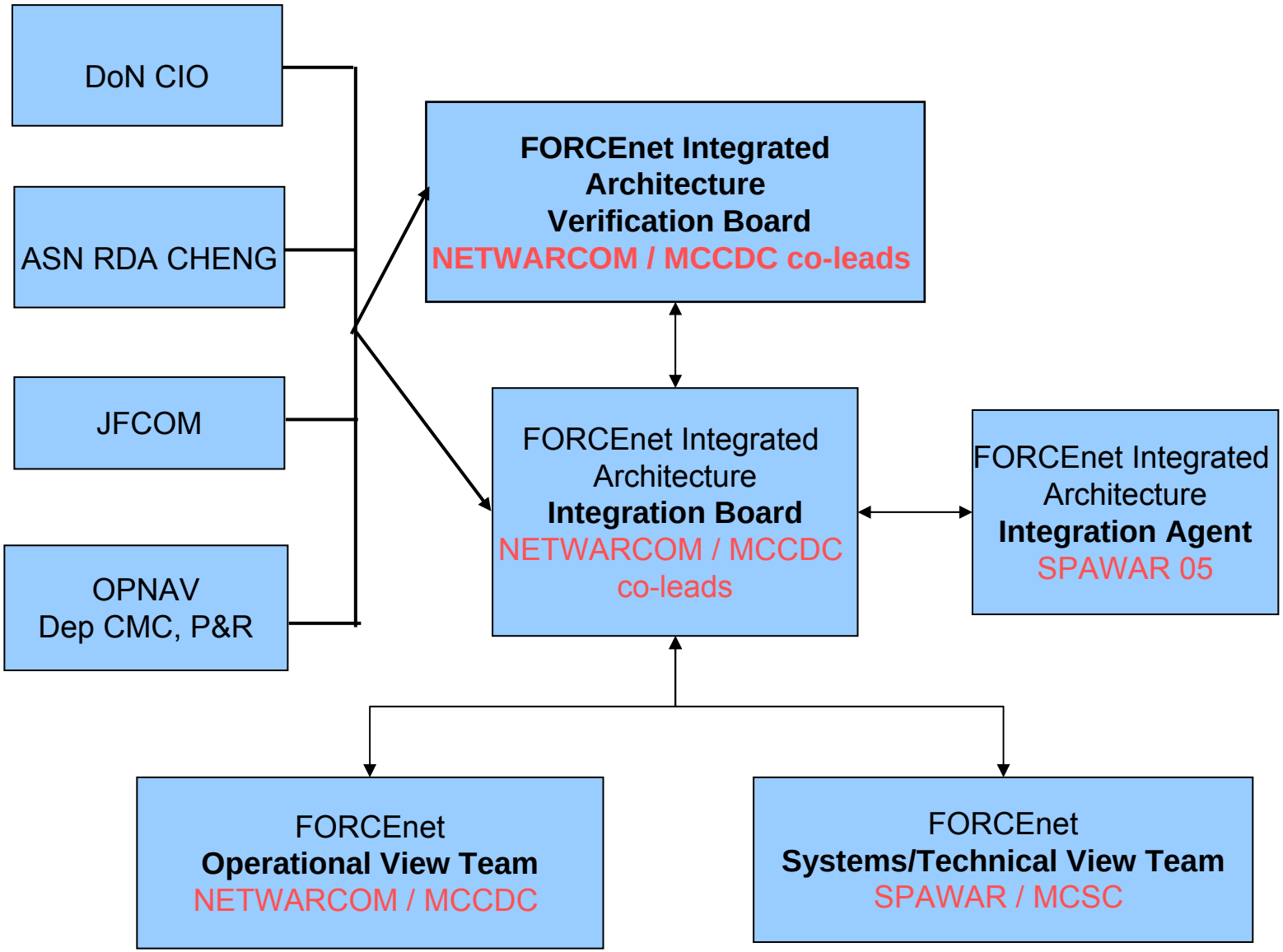
CDDs, CPDs

Experimentation Support

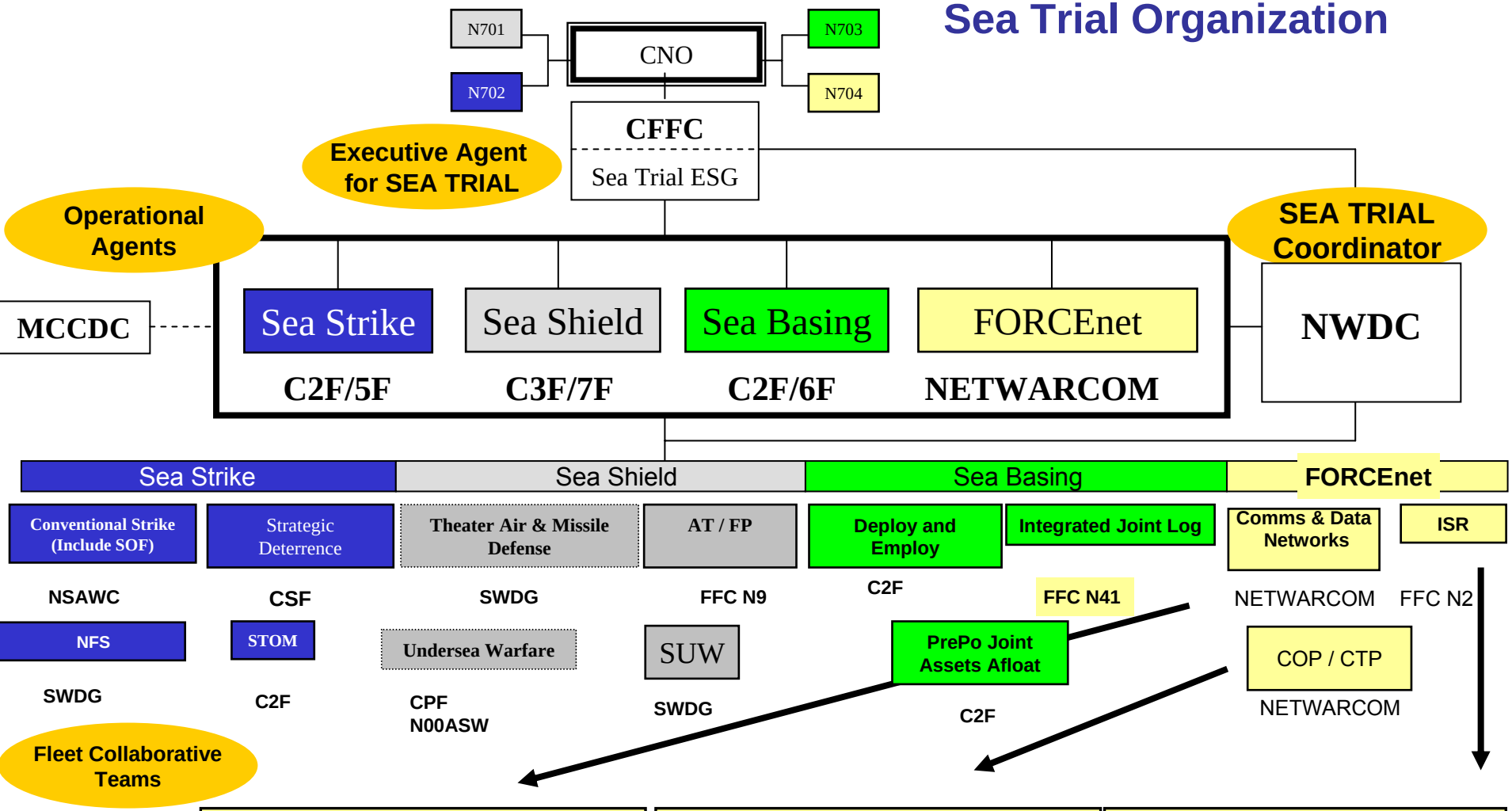
Operational SME Team Review

FORCEnet Integrated Architecture Governance Structure

Mission People Capability



Sea Trial Organization



Comm & Data Netwks.
Team Lead: NNWC
CPF, CNE, CSF, CNSF, C2F, CNAF, NWDC, NNSOC
Consulting Members:
OPNAV N61/N704, ONR, COTF, SPAWAR, MCCDC, NSAWC, NAVSEA, NAVAIR, NAVSOC, CUS

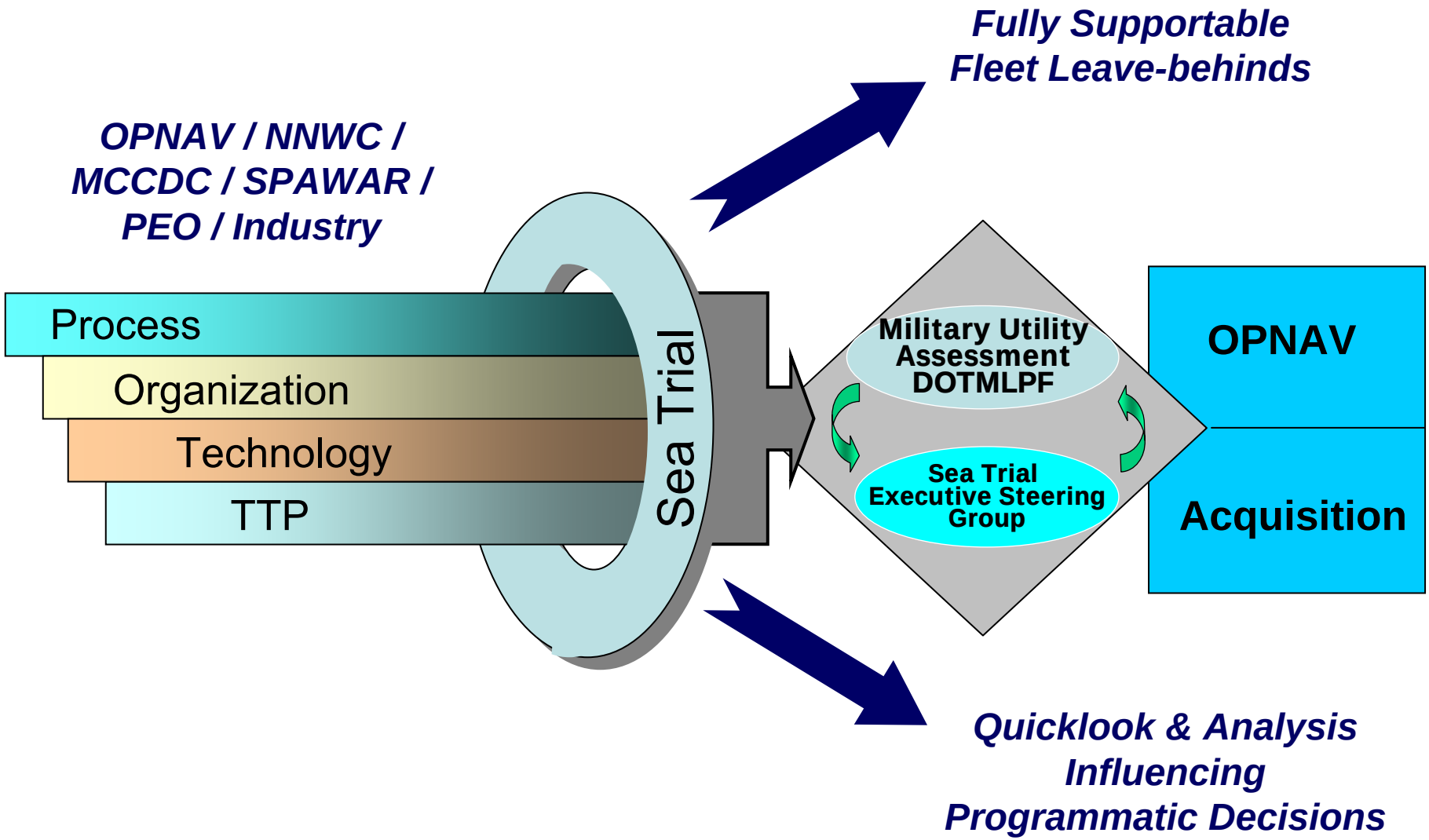
COP and CTP
Team Lead: NNWC
CPF, CNE, CSF, CNSF, C2F, CNAF, NWDC, NNSOC
Consulting Members:
OPNAV N61/N704, ONR, COTF, SPAWAR, MCCDC, NSAWC, NAVSEA, NAVAIR, NAVSOC, CUS

Intel. Surv. & Reccon.
Team Lead: FFC N2
CPF, CNE, CSF, CNSF, CNAF, NWDC, NNWC, NSAWC, NNSOC
Consulting Members:
OPNAV N61, ONR, COTF, ONI,SPAWAR, MCCDC

Trident Warrior in Sea Trial

Sea Power 21's Fleet Driven Speed-to-Capability

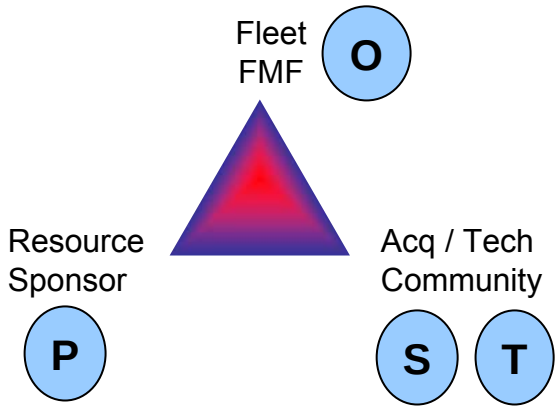
Mission ★ People ★ Capability



FORCEnet Enterprise Team

Mission People Capability

FET: Naval Triad



- Membership *
  - Chairman: NETWARCOM
  - Voting Agencies: NETWARCOM, OPNAV N6/7, USMC (3 inputs), ASN RDA or designees
- Support
  - FORCEnet/C4I Virtual SYSCOM, Fleet SMEs, and other agency staff
- Three level hierarchy (one member from each voting agency for each level)
  - Level I (One Star / SES members)
  - Level II (Two Star / SES members)
  - Level III (Three Star / SES members)

P=Programmatic

O=Operational

S=Systems

T=Technical

Summary

Mission People Capability

- FORCEnet Roles and Responsibilities:
  - Lead for FORCEnet Fleet requirements development.
    - Co-chairs FORCEnet Operational Advisory Group with MCCDC
  - Development of the Naval integrated enterprise architecture –warfighting, business and warfighting support
    - Develops operational views (OVs) of the FORCEnet integrated architecture
    - Co-chairs the FORCEnet Integrated Architecture governance process with MCCDC
  - Operational Agent for FORCEnet in Sea Trial
    - Navy lead for FORCEnet Concept Development and Experimentation
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    - Organize, train and equip
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Delivering Combat Power

Questions?

Mission People Capability